REVISIONS TO FRONT END ELECTRONICS FOR CARBON POLARIMETERS V1

1) AC Coupling of preamplifiers
will allow to operate with higher leakage currents
by removing the bias resistors and replacing the caps with shorts will be back to the DC version

2) use new op amps
OPA687 -> OPA847 (out of production)
THS3001 -> THS3061 (better bandwidth)

3) add one more ground plane (new total is 8)
signals (top) / ground / V plane / V plane / V plane / V plane / ground / voltage regulators etc. (bottom)
need to optimize the 6 voltages (2 X +- 12V, 1 X +- 5 V) over 4 voltage planes:
all +12 V (-12 V) on same plane with large gaps, +5V (-5V) on separate planes

4) move all signal lines on top plane

5) move voltage regulatros on bottom plane

6) BNC connectors for output signals
much easier handling / reconnect of boards, but
will increase width of board and will require support / fixation for the boards

7) ground the sub D connector shell

8) add LEDs for Voltage regulators

9) increase spacing between preamplifier hybrids (+ ~1 mm)

10) HV: move all HV lines on bottom plane, no embedded lines, use surface mounted bias resistors, more clearance (2 mm) for through holes (will solve HV leakage problems), use 2 pin connectors for HV

11) bigger indents for flange screws